3.5 Agricultural Crops and Livestock

3.5.1 Existing Conditions

3.5.1.1 Agricultural Crops

The project lies within Walla Walla County, Washington, and Umatilla County, Oregon. In 1997, the U.S. Department of Agriculture reported 714,777 acres of farmland in Walla Walla County (USDA 2000) and 1,345,097 acres in Umatilla County (USDA 1997). The amount of land farmed and average size of farms have increased in Walla Walla County over the past decade. Wheat, barley, and hay crops have comprised the most agricultural acres in recent years. Cultivated acreage and yields for selected key crops are provided in Table 3.5-1.

Table 3.5-1 Cultivated Acreage by Key Crop, Walla Walla and Umatilla Counties

	Walla Walla County		Umatilla County	
Key Crop	**Acres Harvested**	**Yield (per acre)**	**Acres Harvested**	**Yield (per acre)**
Wheat	231,600[1]	80.8 bu	261,000[1]	60 bu
Barley	22,100[1]	74 bu	14,300[1]	40 bu
Hay (mostly alfalfa)	16,300[3]	5.7 tons	28,000[3]	5.6 tons
Potatoes	11,000[3]	640 cwt	15,800[2]	555 cwt
Corn (for Grain)	7,500[5]	212[3] bu	6,700[1]	200.5 bu
Fruit Orchards	8,057[4]	data unavailable	4,840[4]	data unavailable
Apples	5,222[4]	105,788 tons	3,927[4]	35,701 tons
Alfalfa Seed	6,300[5]	6.2 cwt	No data	No data
Green Peas	11,800[3]	1.5 cwt	29,120[2]	data unavailable
Onions, Sweet Corn, Asparagus	9,950[3]	342.2 cwt	39,656[4,6]	data unavailable

[1] 2000 data.
[2] 1999 data; 2000 data not available
[3] 1998 data, 2000 data not available
[4] 1997 data, 2000 data not available
[5] 1996 data, 2000 data not available
[6] Value is for vegetables in general, data of individual crops not available

bu = bushels
cwt = hundred-weight
Source: USDA website, www.nass.usda,gov, August 8, 2001

The majority of agricultural land in western Walla Walla County, including the project site, is irrigated by center-pivot systems and farmed for hay. Other, more limited agricultural activities in the direct vicinity of the proposal and the surrounding area include vineyards, orchards, and grain farming.

Generation Plant

The project site is currently planted in alfalfa (for hay) totaling approximately 125 acres, and irrigated by a center-pivot system. The project site was originally purchased from the U.S. Department of the Interior in 1970, and was developed for agriculture with central pivot irrigation by 1978. The project site has been farmed for corn, onions,

potatoes, and alfalfa since it was irrigated. These crops have been consistently rotated on the project site for approximately 20 years. In 2000, the average annual price for alfalfa hay (baled) was $100 per ton (USDA 2001).

Agricultural lands immediately adjacent to the project site include a fallow alfalfa field to the north (about 180 acres), a cherry orchard to the northwest (about 20 acres), and fallow and vacant rangeland to the south (about 160 acres). The J.R. Simplot Company cattle feedlot and the Iowa Beef Processors slaughterhouse located to the east of the project site are considered industrial uses.

The Natural Resources Conservation Service (NRCS) has not identified any prime or unique farmlands adjacent to the project site. Prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops. Unique farmland is land other than prime farmland that is used for the production of specific high value food and fiber crops. Both contain the soil quality, growing season, and moisture supply needed to economically produce sustained high yields of crops when treated and managed, including water management, according to acceptable farming methods. In western Walla Walla County, prime farmlands are located exclusively along the Walla Walla River (Long pers. comm.).

Water Supply Pipeline

The water pipeline route would be located on disturbed vacant lands (south of the J.R. Simplot Company feedlot), railroad right-of-way, lands currently managed as part of the Boise Cascade Corporation fiber farm, and a half crop circle. Crop circles in these areas are primarily planted for alfalfa (see Figure 3.4-1 in Section 3.4, Wetlands and Vegetation).

Transmission Line and Associated Facilities

The transmission line right-of-way would cross western Walla Walla County in Washington and Umatilla County in Oregon. Agricultural use predominates in the segment of the transmission line from the proposed power plant to the proposed Smiths Harbor Switchyard.

The most frequent crop planted in 2001 within the project vicinity was wheat (Walla Walla County has various irrigated cropland on a pivot system in the area surrounding the Smiths Harbor Switchyard, but no single prevailing crop). Two kinds of wheat are grown in Walla Walla and Umatilla Counties: winter and summer/fall. Winter wheat is grown on dry agricultural land on a 2-year cycle that consists of seeding in September and October and harvest in July. Summer/fall wheat is seeded in August and September and harvested in July. Both crops alternate with a summer fallow year. Irrigated lands in the project vicinity are planted in potato, mint, sweet corn, peas, or grass seed.

The right-of-way would cross semi-arid areas that generally have cold winters and warm to hot, dry summers. The area receives little annual precipitation and generally crop production requires irrigation. Each year, the frost-free period is approximately

6 months. Soils in the right-of-way area just south of the Washington/Oregon border are suited for wheat and barley dryland farming. Dryland farming uses a cropping system that alternates 2 years of grain and a summer of fallow to conserve moisture in the soil.

The State of Washington portion of the new transmission right-of-way would cross approximately 2.5 miles of irrigated croplands in southwestern Walla Walla County. Walla Walla County has a total of approximately 115,000 acres of irrigated cropland (Hooker pers. comm.). The transmission line would also cross approximately 2.1 miles of dryland crops in Walla Walla County.

The Oregon portion of the new transmission right-of-way would cross approximately 0.3 mile of center-pivot irrigated croplands in Umatilla County. The transmission line would also cross approximately 4.4 miles of dryland agricultural land in Umatilla County. All dryland crops are either winter wheat or summer/fall wheat. (Adelman and Mautz pers. comms.)

Natural Gas Pipeline

The natural gas pipeline would begin at the southeast corner of the project site and run south for approximately 0.3 mile along the Union Pacific Railroad line. The first mile of this pipeline would be located adjacent to established Boise Cascade Corporation cottonwood plantations. The remaining segment of the natural gas pipeline would be located within the outer edge of two full crop circles and two half-circles, of which one half-circle is currently planted. The line would run adjacent to another three planted crop circles and five fallow circles. Crop circles in these areas are primarily planted for alfalfa (Figure 3.4-1).

3.5.1.2 Livestock

Generation Plant

Livestock have not been raised on the project site.

Water Supply Pipeline

The makeup water supply pipeline route does not cross or pass any pastureland.

Transmission Line and Associated Facilities

The new right-of-way would not cross currently designated rangeland in Walla Walla County (Hooker pers. comm., Smayda 2000) but would cross 3.3 miles of designated rangeland or feedlots in Umatilla County (Adelman pers. comm.). The transmission line would cross additional shrub-steppe terrain with grasses suitable for grazing that are not currently listed as rangeland by Walla Walla or Umatilla Counties. Cattle and sheep comprise approximately 96% and 98% of the total inventoried livestock in Walla Walla

and Umatilla Counties respectively (USDA 2001). Total county numbers for range animals are provided in Table 3.5-2.

Table 3.5-2. Livestock Numbers for Walla Walla and Umatilla Counties

Livestock	Walla Walla County	Umatilla County
Cattle	58,000	91,540
Sheep/lambs	1,200	13,643
All data from 1997 census. Source: USDA website, www.nass.usda.gov, August 23, 2001.		

Natural Gas Pipeline

The natural gas pipeline route does not cross or pass any pastureland.

3.5.2 Impacts of the Proposed Action

3.5.2.1 Construction

Agricultural Crops

Generation Plant

Development at the project site would result in the permanent conversion to industrial use of approximately 175.48 acres of land, most of which is currently irrigated farmland (125 acres of alfalfa). According to 1997 data, this acreage represents less than 0.01% of the total amount of farmland in Walla Walla County and 0.9% of land farmed for hay in the county. The gross fiscal impact from lost alfalfa production would amount to approximately $98,000 per year (according to average yields in 1998, of 5.7 tons per acre and reported crop prices for December 2000 of $100 per ton). Direct impacts to agricultural land resulting from the Wallula Power Project would not be significant.

The impacts from soil erosion and surface water runoff during construction are discussed in Section 3.1, Earth.

Water Supply Pipeline

The construction activities for the makeup water supply pipeline would consist of trenching excavations that would be filled in as the pipelines are buried.

The Boise Cascade Corporation fiber farm and one half-crop circle would be temporarily disrupted during construction of the makeup water pipeline. Approximately 24 acres of fiber farm, 3 acres of farmland (including a portion of one half circle), and 20 acres of vacant land would be adversely affected during pipeline construction. The affected area

of the fiber farm would be replanted with native grasses. The duration of makeup water supply pipeline construction would be 2 months (ending 9 months before commercial operation). At most, agricultural activities within a 75-foot-wide corridor on either side of the makeup water supply pipeline would be disrupted for one season.

Assuming the half-crop circle is planted for alfalfa hay, the maximum value lost from 3 acres in production for one season would amount to approximately $1,700 (according to average yields in 1998 and crop prices reported for December 2000). Long-term impacts to crop circles are not expected because the water supply pipeline would be buried 5 feet below grade.

Transmission Line and Associated Facilities

Approximately 6.8 and 3.8 acres of nonirrigated and irrigated crops, respectively, would be temporarily disturbed by placement of structures. Permanent disturbance to agricultural land would be 1.4 acres of nonirrigated and 0.8 acre of irrigated land. An additional 4.5 acres would be temporarily disturbed as a result of the pulling and reeling sites along the transmission line. Most of the agricultural land that would be impacted along the transmission line corridor is currently used for dryland agriculture. The Smiths Harbor Switchyard would permanently remove up to 7 acres of irrigated agriculture land from production. According to 2000 data, this acreage of permanent disturbance represents a fraction of 1% of total wheat grown in both counties.

Based on maps of agricultural cropland provided by Walla Walla County and Umatilla County personnel (Hooker and Adelman pers. comm.), the total acres of wheat lost would be approximately 2.3 and 4.4 acres for Walla Walla County and Umatilla County respectively (using total acres of temporary disturbance for each county). The gross fiscal impact from lost wheat production would amount to approximately $242 per acre in Walla Walla County and $180 in Umatilla County according to average yields in 2000 (80.8 and 60 bushels per acre, respectively) and crop prices reported for July 2001 ($3 per bushel) (Neal pers. comm.).

Construction impacts would be reduced if construction occurs prior to seeding of summer/fall wheat and winter wheat in August and September 2002 or after July 2003 when the fields are fallow (Mautz pers. comm.). Irrigated crops would be least impacted by construction before watering. In Umatilla County, where a few mint crops occur, watering occurs starting about April 15 each year (Latham pers. comm.). At Wordan Farms located in Walla Walla County, winter is the best time for construction (Warden pers. comm.).

Natural Gas Pipeline

The construction activities for the natural gas pipeline would consist of trenching excavations that would be filled in as the pipelines are buried.

Boise Cascade Corporation cottonwood plantations and 12 crop circles (including two half circles) located adjacent to the proposed natural gas pipeline would be temporarily disrupted during construction. Approximately 10.3 acres of cottonwood plantation and 36.1 acres of farmland (including portions of five full crop circles and two half circles) would be affected. The duration of natural gas pipeline construction would be 3 months (ending 18 months before commercial operation). At the most, agricultural activities within a 75-foot-wide corridor on either side of the natural gas pipeline would be disrupted for one season.

Assuming the crop circles are planted for alfalfa hay, the maximum value lost from 36.1 acres in production for one season would amount to approximately $20,500 (according to average yields in 1998 of 5.7 tons per acre and reported crop prices for December 2000 of $100 per ton). All 36.1 acres of the farmland are not irrigated and farmed; the exact affected acreages within each irrigated crop circle have not been calculated. The pipeline would be buried 5 feet below grade and long-term impacts to crop circles are not expected.

Livestock

Generation Plant

Significant impacts to agricultural animals and animal husbandry are not expected to occur. The project site is not currently used as rangeland or for animal husbandry. Any land that would be converted from an agricultural crop (such as alfalfa) that is expected to have a long-term value would be compensated in an easement agreement between the landowner and the applicant.

Potential noise impacts to cattle at the J.R. Simplot Company feedlot and Iowa Beef Processors slaughterhouse located adjacent to the project site would not be considered significant as individual feedlot cattle are maintained at the feedlot for short periods of time. Noise impacts to agricultural animals are not regulated.

Water Supply Pipeline

The pipeline lateral would not travel through grazing pastures. Livestock would not be impacted by the construction of the pipeline lateral.

Transmission Line and Associated Facilities

Significant impacts to agricultural animals and animal husbandry are not expected to occur. No livestock exclusion from designated grazing rangelands would occur during construction of the transmission line. Potential noise impacts to cattle at the Mautz range, Fox feedlot, or Superior Farms feedlot adjacent to the right-of-way would not be considered significant. Individual feedlot cattle are maintained at each feedlot site for short periods of time. For example, in the spring through August the Superior Farms

feedlot is not utilized (Baggett pers. comm.). Range cattle have a wide area available and can avoid the construction area easily. Noise impacts to agricultural animals are not regulated.

Based on county agricultural mapping, installation of the transmission line structures would convert approximately 0.8 acre of rangeland or feedlots in Umatilla County.

Natural Gas Pipeline

The pipeline lateral would not travel through grazing pastures. Livestock would not be impacted by the construction of the pipeline lateral.

3.5.2.2 Operation and Maintenance

Agricultural Crops

Generation Plant

All agricultural cropland (125 acres) located at the 175.48 project site would be converted to industrial land use. With agricultural cropland removed, there would be no impacts to agricultural crops at the project site from operation and maintenance activities.

The Wallula Power Project would include purchase of the Boise Cascade Corporation cottonwood plantation land to the south/southeast of the project site. Water currently used to irrigate 1,243 acres of the cottonwood plantation would be diverted for use at the power plant. As a result, the use of this land for irrigated agriculture would cease. The land where the cottonwood plantation currently is located would be managed as a conservation area and converted to cultivated dryland grasses or dryland grasses and shrubs. After the useful life of the generation plant had ended, the land could return to irrigated agricultural use.

In addition, the applicant would execute an option to purchase conservation easements and lease agricultural land and associated water rights from the J.R. Simplot Company. This would remove 475 acres of irrigated cropland from agricultural production for the life of the project. This land would lay fallow, be cultivated in native dryland grasses, or may be used for cattle grazing.

Impacts of cooling tower drift and nitrification of plants and lands due to stack emissions are negligible and are discussed in Section 3.2, Air Quality and Section 3.4, Wetlands and Vegetation.

The impacts of an accidental ammonia release occurrence would be minor for agricultural crops, since the storage tanks would reside nearest the J.R. Simplot Company feedlot that is mostly free of vegetation. No releases are expected during the operating lifetime of the project. The tree farm land currently owned by Boise Cascade, which would be acquired

in order to obtain water rights, would also be removed from agricultural use for the life of the project and would not be affected by an accidental ammonia release.

Water Supply Pipeline

Periodic vehicle access would be required for inspection and maintenance of the makeup water supply pipeline. When inspection or repair required access, some crop vegetation could receive trampling and soils could be compacted. If soil were exposed, weeds could become established. Vegetation would be maintained in its existing grassland, shrub-steppe, or agricultural setting.

Transmission Line and Associated Facilities

No additional impacts to agricultural production or rangeland are anticipated during operation and maintenance of the proposed transmission system.

Natural Gas Pipeline

See discussion for water pipeline.

Livestock

Generation Plant

Significant impacts to agricultural animals and animal husbandry are not expected to occur for the reasons discussed earlier for construction.

Water Supply and Natural Gas Pipelines

The pipeline laterals would not travel through pastureland. The operation and maintenance of the pipelines would not impact livestock.

Transmission Line and Associated Facilities

No additional impacts to agricultural production or rangeland are anticipated during operation and maintenance of the proposed transmission system.

3.5.3 Impacts of Alternatives

3.5.3.1 Alternative Tower Height and Longer Span Design

If the alternative transmission structure design were selected by Bonneville, fewer structures would be installed along part of the right-of-way. This may reduce the total acreage permanently impacted to approximately 0.8 acre and 1.1 acres of irrigated and nonirrigated land, respectively (Table 3.4-2) depending on individual structure footprints.

3.5.3.2 Alternative Alignment near McNary Substation

Both routes being considered for entry into McNary Substation would impact some land used for pasture. The amount of disturbance would be similar between the two options.

3.5.1.1 No Action Alternative

Under the No Action Alternative, there would be no impacts to existing agricultural and livestock land associated with the proposed project.

3.5.4 Mitigation Measures

No mitigation measures are required beyond those presented in the project description as inherent to the project design (Appendix A).

3.5.5 Significant Unavoidable Adverse Impacts

The project would result in the one-time and permanent removal of 125 acres of irrigated agricultural production (alfalfa in 2001) on the project site. In addition, the project would result in the removal of 1,243 acres of Boise Cascade's fiber (tree) farm production and 475 acres of crop production on the Simplot property, both currently irrigated with water that would be used by the generation plant. These acres of irrigated cropland would be removed from agricultural use for the life of the project.